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A NEW POCKET GOPHER FROM SOUTH-CENTRAL
UTAH

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Durrant (Mammals of Utah, Taxonomy and Distribution, Univ. Kansas Publs. Mus. Nat. Hist., 1952) referred pocket gophers from extreme south-central Utah to *Thomomys bottae absonus*. At that time, he had but five specimens from that area of the state. Intensive collecting of mammals has been carried out during the past two summers, and specimens of *Thomomys bottae* were obtained from Garfield County, Utah, from a locality from which no specimens have been taken previously. Critical study indicates that these pocket gophers from Garfield County, Utah, belong to an heretofore unnamed kind.

The writer is indebted to Doctor John Aldrich, and Miss Viola S. Schantz, U. S. Fish and Wildlife Service, U. S. National Museum, Washington, D. C., for the loan of comparative materials. Capitalized color terms are after Ridgway (Color Standards and Color Nomenclature, Washington, 1912).

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Thomomys bottae powelli new subspecies

Type.—Adult female, skin and skull, number 7955, Museum of Zoology, University of Utah, Hall Ranch, Salt Gulch, 8 miles west of Boulder, 6,000 feet, Garfield County, Utah, collected by Stephen D. Durrant, August 7, 1951, original number 2578.

Range.—Known only from the type locality and immediate environs.

Diagnosis.—Size large (see measurements). *Color*: Upper parts and sides uniformly clear Cinnamon-Buff; top of nose with admixture of dark brown hairs; postauricular spots small and dark brown, underparts Pinkish Buff; chin, throat, perineal region, front feet, hind feet and distal ends of forearms and shanks, white. *Skull*: Large, robust; zygomatic arches heavy and widely spreading; widest posteriorly; nasals wide posteriorly, truncate and relatively short as compared with basilar length; extension of premaxillae posterior to nasals long; interpterygoid fossa short and widely V-shaped; pterygoid hamulae robust; upper incisors long and wide.

Measurements.—The measurements of two adult male topotypes, numbers 8981 and 9718, and the average and extreme measurements of 4 adult female topotypes (including the type) are, respectively, as follows: Total length, 233, 247, 226 (232-222); length of tail, 70, 70, 70

(76-65); length of hind foot, 32, 35, 32 (33-31); length of ear, 6, 6, 5.25 (6-5); basilar length, 35.6, 38.2, 34.4 (34.8-34.0); length of nasals, 12.2, 14.1, 12.85 (13.0-12.7); zygomatic breadth, 24.5, 26.1, 23.85 (24.7-23.5); mastoid breadth, 20.4, 21.5, 20.2 (20.8-19.7); interorbital breadth, 6.7, 6.5, 6.7 (6.8-6.5); alveolar length of upper molariform teeth, 8.0, 8.1, 7.9 (8.1-7.5); extension of premaxillae posterior to nasals, 3.2, 3.3, 3.4 (4.0-3.0); length of rostrum, 16.1, 17.3, 16.1 (16.5-15.6); breadth of rostrum, 8.0, 8.8, 7.9 (8.2-7.7).

Comparisons.—Topotypes of *T. b. powelli* differ from topotypes and near topotypes of *T. b. absonus* as follows: *Color*: Lighter throughout. *Skull*: Interparietal smaller and more triangular in shape; nasals markedly wider posteriorly, and more expanded anteriorly; extension of premaxillae posterior to nasals greater; interpterygoid fossa shorter and more widely V-shaped; cavities at posterior end of palate shallower; pterygoid hamulae heavier; palate wider; upper incisors markedly longer and wider.

Compared with topotypes and near topotypes of *T. b. osgoodi*, topotypes of *T. b. powelli* differ in: *Size*: Larger in nearly all measurements. *Color*: Darker throughout. *Skull*: Interparietal smaller; nasals shorter and wider posteriorly; posterior ends of nasals truncate as opposed to V-shaped; extension of premaxillae posterior to nasals greater; nasals flatter and more expanded distally; interpterygoid fossa shorter and more sharply V-shaped; cavities at posterior end of palate shallower; upper incisors longer and wider.

Topotypes of *T. b. powelli* differ from those of *T. b. dissimilis* in larger size, lighter color, larger, more massive skull, wider posterior ends of nasals, greater extension of premaxillae posterior to nasals and longer and wider upper incisors.

Among named subspecies, topotypes of *T. b. powelli* resemble those of *T. b. planirostris* the closest, but differ from them as follows: *Color*: Lighter throughout. *Skull*: Rostrum narrower; frontal processes of premaxillae narrower; nasals shorter, and wider posteriorly; posterior ends of nasals square as opposed to V-shaped; interparietal smaller and triangular as opposed to subquadrangular; pterygoid hamulae broader; cavities at posterior ends of palate smaller and shallow as opposed to deep.

Compared with topotypes of *T. b. trumbullensis*, topotypes of *T. b. powelli* differ in: *Size*: Larger in nearly all measurements. *Color*: Markedly lighter throughout. *Skull*: Larger, rostrum narrower; posterior ends of nasals wider; maxillary tongues of approximately the same length, but narrower; pterygoid hamulae shorter; interpterygoid space more widely V-shaped; cavities at posterior end of palate markedly shallower; tympanic bullae larger.

Remarks.—The range of *T. b. powelli* is quite isolated from that of other subspecies of *T. bottae*. Animals of this particular subspecies appear to be intruders who have taken over a range along a stream in the southern flank of the Aquarius Plateau. This range is surrounded on three sides by pocket gophers belonging to another species, *Thomomys talpoides*.

Reference to the literature will inform the reader that in south-central and southwestern Utah, there are several subspecies of pocket

gophers of the species *Thomomys bottae*. South of the range of *T. b. powelli*, in Arizona, *T. b. absonus* occurs; to the southwest in Arizona, *T. b. trumbullensis* occurs; to the west in Utah, *T. b. planirostris* occurs; to the northeast in the Henry Mountains, *T. b. dissimilis* occurs; and to the north, in the drainage of the Dirty Devil River, *T. b. osgoodi* occurs. All of these subspecies form a complex and show considerable relationship. All of them have relatively small isolated or nearly isolated ranges. Unquestionably, there is some small exchange of genes between animals of these subspecies. Here, then, is demonstrated the amount of genetic fixation that has taken place in these small populations, under semi-isolation. Also, something of the tempo as well as the mode of fixation is indicated, because none of these heretofore mentioned subspecies are considered to be older than extremely late Pleistocene.

These small, microgeographic populations are referred to as subspecies because they are distinct from other populations, have attained a position of comparative genetic stability, and merit some meaningful method of distinction from the general pattern of variation of the species. Moreover, designating them as subspecies, is the more precise, scientific manner to document their degree of advance.

Specimens examined.—15, from the type locality.

Contribution from the Museum of Zoology, University of Utah, Salt Lake City, Utah.